

Correspondence

Retinal burns from MIG-welding arcs

SIR, I read the article by G P H Brittain¹ on retinal burns caused by exposure to MIG-welding arcs with great interest. I had not seen any cases in Australia and so I was very interested to study the illustrations. Two cases were described. The first case was illustrated in Fig. 2 but I could not see the 'small dark lesion above each fovea' said to be present. The second case is illustrated in Figs. 3 and 4, and I felt the appearances were more consistent with a retinal pigment epithelial detachment than a photocoagulation burn.

Mr Brittain also claims that the lesions in the right and left eye are symmetrical and illustrate the principle of physiological diplopia. On looking at Fig. 4, however, there were two very obvious lesions in the right eye with a larger one below the horizontal meridian and lateral to the fovea. In the left eye only a large lesion is clearly visible, and it is above the horizontal meridian. On this evidence the lesions in the right and left eyes are not symmetrical. I think we should always be alert to the possibility of retinal damage in people who use arc welders and are not properly protected. I am not convinced, however, that Mr Brittain's article has given us illustrations of retinal burns that have been caused by exposure to MIG-welding arcs.

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Reference

- 1 Brittain GPH. Retinal burns caused by exposure to MIG-welding arcs: report of two cases. *Br J Ophthalmol* 1988; 72: 570-5.

SIR, I would like to answer the criticisms against my report of two cases of retinal burns caused by exposure to MIG-welding arcs made by Mr Beaumont, who has not seen any such cases in Australia and remains unconvinced by my article.

I must agree with his first criticism that the black-and-white illustrations in Fig. 2 do not make the small parafoveal lesions obvious. I had included them for the sake of completeness, but I accept that while the lesions are poorly visible in the original colour transparencies they have virtually been lost in the black-and-white illustrations made from them. The lesions were seen and noted by several of the ophthalmic staff at the Leicester Royal Infirmary. Because of the poor contrast difference between the lesions and the background retina they were very difficult to photograph with standard high intensity flash photography.

Mr Beaumont feels that the appearance of the lesions in the second case is more consistent with retinal pigment epithelial detachments than with photocoagulation burns. I agree that the lesions are at this retinal level where pigmentation and therefore thermal effects of light absorption are maximal. The lesions, however, were not elevated as RPE detachments would be. There was no focal point of

fluorescein leakage nor 'smokestack' sign, and the lesions showed no sign of enlargement with time, though they did take up dye as would any traumatised tissue. In both cases the lesions tended to resolve in the few days subsequent to exposure to the arc, implying that they were not spontaneous events but caused by the arc.

I would ask him to refer to the original description of the gross and microscopic changes induced by the laser beam in human eyes by Zweng *et al.*¹ in particular to examine their illustration (Fig. 4) which shows a photograph of experimental laser photocoagulation burns at 28 hours (a similar period elapsed between exposure and photography in my second case). In their words 'the lesions consisted of a central depigmented area surrounded by a rim of increased pigmentation which in turn was surrounded by a halo of depigmentation.' This is also an accurate description of the lesions in my second case.

He does not feel that the lesions in the second case are symmetrical, though both major lesions lie centred 1.2 disc diameters from the fovea and are very similar in shape and size. The major lesion in each eye lies one above and one below the horizontal meridian because the head was tilted to the right as the patient lay on the ground to reach under the car. Although oblique, the position of these lesions is symmetric about the fovea and certainly could be explained by the principle of physiological diplopia as I have suggested. The smaller lesion in the right eye could have occurred at another exposure while the left eye was closed or protected by the visor and in no way detracts from the symmetry of the other lesions.

I am convinced that in both cases I reported the lesions resulted from exposure to MIG-welding arcs. I do not wish to imply that such injuries are common. The circumstances in which these retinal injuries occurred may have been exceptional in that the first was caused by prolonged exposure, and the second by brief but very intense exposure due to the close proximity of the arc to the patient's dilated pupils. In neither case did there appear to be any persistent visual symptoms, and it is possible that such injuries go unobserved, overshadowed by the more immediate problem of an acutely painful ultraviolet keratitis. There may be long term problems resulting from exposure to such high intensity light, and I feel that MIG-welding arcs should be treated with a great deal more respect than they are presently afforded.

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Reference

- 1 Zweng HC, Flocks M, Peabody R. Histology of human ocular laser coagulation. *Arch Ophthalmol* 1966; 76: 11-5.

Precision versus confusion

SIR, I read with interest 'Why should surgery for early-onset strabismus be postponed?' by M Deller.¹ Dr Deller is to be congratulated on his careful studies of this condition, which

lend further and important support to its prompt treatment for best results. His long term follow-up is especially commendable and encouraging.

I would protest, however, against the continued and further abuse of the English language in descriptions of the surgery for this condition, which have now finally reached the point of miscommunication and erroneous meaning, to wit: In the first line of the summary what is or are the 'bilateral rectus muscles'? Later in line 6 of the summary the author talks further about 'bimedial rectus recession'. Further in the text he does state that what he is doing is as suspected: 'surgery is always symmetrical on the two medial recti, consisting of muscle recession . . .' We know then that what he is doing is what should be and has been properly described for many years as 'bilateral medial rectus recession'. This has been, unfortunately, shortened in the last decade by many authors to 'bimedial recession' or 'bimedial rectus recession'.

It is the history of language that man will violate spelling and grammar rules to save time and for greater efficiency. Our language is full of such contractions and abbreviations. Sometimes, however, such contractions are inappropriate or imperfect, and confusion results along with the saving of time and energy.

Such is the case here, for one should immediately realise that the use of the term 'bimedial' in this context destroys the standard medical meaning of its opposite term, 'bilateral'. No clearer case or example of this confusion has been printed in our literature, to my knowledge, than in the summary of this article, which starts off with the term 'bilateral rectus muscles'. This is the final end product of the wayward process of contraction.

Whatever then is this? If one accepts that a 'bimedial rectus recession' is short for a 'bilateral medial rectus recession', then 'bilateral rectus muscles' must mean 'bilateral lateral rectus muscles'. But can we arrive at this conclusion only by inference, because we know about this condition and we know what the author is trying to say? We cannot understand this by what he has actually said, because there is no such entity as 'bilateral rectus muscles'.

The situation is hardly lost or desperate. The language has suffered this sort of abuse before, and has survived. It has, however, developed some defences against the confusion which can result in these situations. When two words are contracted into one, the convention is to use a hyphen if nothing is left out, and to use an apostrophe if something is left out, as in the word 'can't', a contraction of two words, 'can not'. Another example is 'isn't', a contraction for 'is not'. So, technically, Dr Deller and others should be describing this as a '*bi'medial rectus recession*'. The operation which is usually performed for exodeviations, a 'bilateral lateral rectus recession', would then be a '*bi'lateral rectus recession*'.

But the apostrophe is not, to me, sufficiently strong for what has been left out. It is not just a letter or two which has been dropped. Rather, a whole 'side' has been dropped ('lateral'), and the apostrophe, though it is most correct, doesn't seem strong enough.

We have therefore used the hyphen, which though not entirely appropriate is strong enough to get even the casual reader's attention to the fact that something unusual and significant is going on here²—that is, *bi-medial recession* or

bi-lateral recession. We would like to encourage others to do likewise, or if they have a better idea, let us hear it.

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References

- 1 Deller M. Why should surgery for early-onset strabismus be postponed? *Br J Ophthalmol* 1988; **72**: 110–5.
- 2 Romano PE. More thank you's. (Editorial.) *Binocular Vision* 1985; **1**: 67–70.

PS Dr Deller does seem to appreciate precise words. He is to be commended for the use of the term 'retroquatorial myopexy'. His precision here makes the imprecision of his other terms, however, that much less understandable. Rather than 'alphabetical syndromes' he might prefer a word which seems to be gaining increasing use to describe these problems: 'anisotropia'.

SIR, I thank Dr Romano for his letter, which might otherwise be called a lengthy study on the hyphen—to be or not to be?

The terms 'bi-medial'¹ or 'bimedial'^{2,3} as used by my British orthoptist-translator, are widely used by respected authors of English ophthalmic literature. Any misunderstanding of the fellow 'bi-with-or-without-hyphen lateral' is regrettable, as I share Dr Romano's desire to render as comprehensible as possible our scientific communication. I therefore cannot condone his—albeit ironic—proposition of the term 'anisotropia', with which he obviously relishes the prospect of creating a further opportunity to comment on confusion and inefficiency.

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References

- 1 MacLellan V, Hughes J. Orthoptics and squint surgery. *Br Orthopt J* 1976; **33**: 82.
- 2 Parks MM. *Ocular motility and strabismus*. London: Harper, 1975: 108.
- 3 Helveston EM. *Atlas of strabismus surgery*. St Louis: Mosby, 1977: 211.

Book reviews

Systemic Inflammatory Disease and the Eye. By W J DINNING. Pp. 247. £30.00. Butterworth: Guildford. 1987.

This small book is written at the interface of ophthalmology and general medicine. The opening chapter, on the signs of ocular inflammation, is followed by six chapters describing the various systemic diseases which may be associated with ocular inflammation as part of their multisystem involvement. It is important to realise that the book takes ocular inflammation in its widest definition and is not merely a